

IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF PENNSYLVANIA

MD MALL ASSOCIATES, LLC : CIVIL ACTION
: :
v. : No. 11-4068
: :
CSX TRANSPORTATION, INC. : :

MEMORANDUM

Juan R. Sánchez, J.

December 22, 2017

This case involves a dispute between neighboring property owners: a shopping mall and a railroad. Plaintiff MD Mall Associates, LLC, t/a MacDade Mall Associates, L.P., owns and operates the MacDade Mall, a shopping center located on property adjacent to and downhill from a railroad track and right-of-way owned and operated by Defendant CSX Transportation, Inc. During heavier rains, storm water pools at the outer edges of the right-of-way on either side of the track and flows onto the Mall's property from a stretch of the right-of-way near the eastern end of the parties' shared property line, flooding the southeast corner of the Mall parking lot. Although the current flooding pattern appears to have arisen only within the past decade or so, the Mall seeks to hold CSX liable for the flooding on the theory that the construction of the railroad track more than a century ago—and decades before the Mall itself was constructed—changed the flow of surface water on the right-of-way, channeling the water into swales from which it discharges in concentrated form onto the Mall property. The Mall also argues the current flooding problem is attributable to CSX's negligent maintenance of the right-of-way in recent years. CSX denies liability, arguing it has done nothing to alter the natural course of the surface water, which continues to flow from higher to lower ground, and that the Mall's flooding problem is instead attributable to unmanaged excess flow from the uphill residential neighborhood on the opposite side of the railroad track from the Mall. Following a four-day

bench trial, which included a site visit to the area in question, the Court issues the following findings of fact and conclusions of law pursuant to Federal Rule of Civil Procedure 52(a). Because the Mall has not satisfied its burden to prove by a preponderance of the evidence that CSX is liable for the flooding under either a continuing trespass or a negligence theory, judgment will be entered in favor of CSX.

FINDINGS OF FACT¹

A. The Existing Topography of the Area in Question

Plaintiff owns the MacDade Mall, a shopping center located in Delaware County, Pennsylvania. The Mall property is bounded by streets on three sides: MacDade Boulevard to the north, Glenside Avenue to the west, and South Avenue to the east. *See Ex. 52.* A railroad right-of-way and track owned by CSX run along the entire southern border of the Mall property.² The railroad track crosses South Avenue at a railroad crossing located just beyond the southeast corner of the Mall property.

¹ These findings of fact are based on the evidence presented during the trial of this case, held on December 14-17, 2015, and on the Court's observations of the area in question during a December 16, 2015, site visit. At trial, the Court heard testimony from three experts: James P. Kelly, P.E., and Frank X. Browne, Ph.D., P.E., engineering and storm water management experts for the Mall, and Jeffrey M. Bross, P.E., a storm water management expert for CSX. The Court accepts all three witnesses as experts in their fields and credits their opinions to the extent set forth below. The Mall also presented two lay witnesses: John Fiore, the Mall's property manager since October 2006, and Steven Wolfson, a principal in the partnership that owns the Mall. Both parties introduced deposition testimony from Jeremy Helene, a CSX staff engineer, William Parry, a manager of environmental remediation for CSX, and David Lackford, CSX's roadmaster for the 100 miles of "mainline" from Center City Philadelphia to Center City Baltimore. All findings are made by a preponderance of the evidence.

² CSX acquired the track in 1989 when it merged with the Baltimore and Philadelphia Railroad Company, a company operated by the Baltimore and Ohio Railroad Company, which built the track in the late 1800s. *See Ex. 17; Ex. 20.*

The railroad right-of-way is situated between the Mall to the north and a residential neighborhood to the south. The right-of-way sits on higher ground than the Mall and on lower ground than the residential neighborhood, which slopes upward from the right-of-way.

A single railroad track runs through the center of the right-of-way. The track is elevated on a bed of compacted stone ballast, which sits atop a bed of compacted earth known as hard pan. *See* Ex. 42 at 64-65; *see also* Ex. 37 at 63-64. The bed of ballast supporting the track slopes away from the track at an angle on either side, toward the hard pan surface of the right-of-way. *See* Ex. 37 at 68-70; Ex. 42 at 65.

The ballast serves both structural and drainage functions. Structurally, the ballast keeps the track level and elevated, *see* Ex. 42 at 56, and the sloping of the ballast on either side of the track serves to prevent the track from moving, *see* Ex. 37 at 83. Because the ballast is porous by design, storm water can flow through it. Trial Tr. 74, Dec. 14, 2015; Trial Tr. 179, Dec. 15, 2015; *see also* Trial Tr. 120, Dec. 15, 2015. The ballast thus ensures that water drains away from the track and onto the surface of the right-of-way where it flows to the nearest low point. *See* Ex. 42 at 26-27, 56; Ex. 37 at 82, 128-29.

Alongside the sloped ballast, the surface of the right-of-way is generally flat in appearance, *see, e.g.*, Trial Tr. 105, Dec. 15, 2016 (Browne) (characterizing the land alongside the elevated ballast as “flat property”); *id.* at 125 (agreeing the area around the track is “really flat”), though recent topographic maps of an approximately 120-foot stretch of the right-of-way and adjacent Mall property west of South Avenue reveal slight undulations.³

³ The recent topographic maps were prepared by Kelly & Close Engineers, an engineering firm retained by the Mall in which Mr. Kelly, one of the Mall’s engineering experts, is a principal. The firm surveyed the southeastern area of the Mall property and the adjacent portion of the right-of-way for a distance of approximately 120 feet from the railroad crossing at South Avenue. *See* Ex. 8, sheets 1 & 2.

On either side of the track, the surface of the right-of-way slopes slightly downward to a low point running generally parallel to the track close to the property line,⁴ then slopes upward onto the adjacent property. *See Ex. 8, sheets 1-3.* The ground on the south side of the track is generally flatter and higher than the ground on the north side of the track. *See id.*

On the north side of the track, the high point between the track and the Mall is almost entirely on the Mall property, as is most of the upslope to that high point.⁵ From the high point on the Mall property, the ground descends down a short hill to the Mall parking lot. The mounded area at the top of the Mall hill—referred to throughout this litigation as a “berm”⁶—is lined with trees and bushes.

On the south side of the track, the land slopes upward from the low point on the right-of-way toward the residential neighborhood further to the south.⁷

⁴ These low points, referred to on the Kelly & Close topographic maps as “swale centerlines,” Ex. 8, sheet 2, appear to generally correspond to what the CSX witnesses referred to as “ditch lines,” *see Ex. 37 at 87-88, 126-27; Ex. 42 at 65-66.*

⁵ The ground is almost entirely flat at the railroad crossing, which is slightly higher than the rest of the right-of-way. *See Ex. 8, sheets 2 & 3.* At a distance of 20 feet west of the railroad crossing, the surface of the right-of-way is still fairly flat, but the high point between the right-of-way and the Mall property is on the right-of-way, just south of the property line. *See id.*, sheet 3. At a distance of 40-120 feet west of the right-of-way, the high point is on the Mall property. *See id.*

⁶ Despite the parties’ consistent use of the term “berm” to refer to the earthen mound between the two properties, at trial, Dr. Browne, a former proponent of the theory that CSX’s predecessor constructed a berm between the properties, disavowed his earlier opinion, stating he now believes “[a] berm was not constructed as a berm.” Trial Tr. 143-46, Dec. 15, 2015.

⁷ On the Kelly & Close topographic maps introduced at trial, the low point on the south side of the right-of-way appears to be located at the property line for much of the surveyed portion of the right-of-way. *See Ex. 8, sheet 2.* During trial, however, the Mall produced a revised version of one of the Kelly & Close maps, on which Mr. Kelly had added certain measurements. *See Trial Tr. 97, Dec. 16, 2015* (describing the additional measurements). The revised map, which was not admitted into evidence, depicts the property line on the south side of the right-of-way as

The ground along the low point on the north side of the track drops very slightly in elevation from west to east along the surveyed portion of the right-of-way, then rises again closer to the railroad crossing. *See* Ex. 8, sheets 1-3 (showing a slight west-east decline in elevation from a high of 95.62 feet to a low of 95.5 feet, then an increase to a high of about 98 feet). On the south side of the track, the low point generally increases slightly in elevation from west to east. *See id.* (showing a slight west-east increase in elevation from a low of 96.07 feet to a high of 97 feet).

The slight undulations in the surface of the right-of-way and the adjacent ground create mild depressions at the outer edge of the right-of-way on either side of the track. Although the parties have referred to these mild depressions as “swales” or “drainage swales” throughout this litigation, at trial, Dr. Browne indicated that, in fact, he does not believe swales were ever constructed because “a swale is defined kind of as somewhat of a concave type of thing,” and the right-of-way next to the track is essentially flat. *See* Trial Tr. 105, 125-26, Dec. 15, 2015; *see also id.* at 74-75.

B. The Current Flooding Problem on the Mall Property

Since at least 2010—and perhaps even earlier⁸—the Mall has experienced flooding in the southeast corner of the Mall property during heavier rains.

located further south than on the original map. It is thus not clear exactly how close the low point on the south side of the track is to the southern property line of the right-of-way.

⁸ As discussed below, although the Mall’s witnesses testified they first became aware of the flooding problem at the Mall in October 2010, *see* Trial Tr. 6, 55, Dec. 15, 2015, photographic evidence suggests flooding may have occurred prior to 2010, *see* Ex. 58 (June 29, 2006, photograph depicting standing water in the Mall parking lot and an eroded area in the hill leading up to the right-of-way).

During significant rain events,⁹ storm water pools in the mild depressions at the outer edges of the right-of-way on either side of the track.

Although the surface of the right-of-way is “fairly flat,” on the north side of the track, the pooling water flows in an easterly direction toward the railroad crossing at South Avenue. *See Trial Tr. 33-34, 48-49, Dec. 14, 2015.* The elevation at South Avenue is higher than on the right-of-way, and prevents the water from continuing eastward as it approaches the railroad crossing. *See id.* at 49. Instead, before reaching the crossing, the water flows in a northerly direction onto the lower-lying Mall property.¹⁰ *See id.* at 33-34, 48-49.

The water that pools on the south side of the track contributes to the flooding on the Mall property in that, as the water accumulates on the south side, it flows through the ballast supporting the track onto the north side of the right-of-way and, ultimately, onto the Mall property.¹¹ *See Trial Tr. 73-74, Dec. 14, 2015; Trial Tr. 178, Dec. 16, 2015.*

An open-ended drainage pipe extends onto the right-of-way from the back of a storm water inlet that sits below grade in the west side of South Avenue, just south of the railroad

⁹ It is undisputed that the Mall generally experiences significant flooding from the right-of-way in precipitation events of three or more inches, *see Trial Tr. 20, Dec. 16, 2015*, though lesser rains can also cause flooding, depending on the intensity of the rain and other factors, *see id.* at 103-04 (Browne) (explaining that one or two inches of high intensity thunderstorm-type rain can produce flooding); *Trial Tr. 31-32, Dec. 16, 2015.*

¹⁰ Because the flow of water along the track is not always apparent to the naked eye, Mr. Kelly confirmed this flow pattern by performing a dye test. *See Trial Tr. 65, Dec. 14, 2015.* Mr. Kelly performed the dye test from a point approximately 87 feet west of South Avenue, *see Ex. 9 ¶ 7*; hence, it is not clear how far west the west-east flow pattern originates.

¹¹ Although Mr. Fiore testified that he observed the pooling water flow from west to east toward South Avenue along the eastern portion of the south side of the right-of-way, *see Trial Tr. 13, Dec. 15, 2015*, these observations were not confirmed by a dye test, *see Ex. 9 ¶ 6(a)* (explaining a dye test was not performed on the south side of the track because there was insufficient water buildup on that side on the day the dye testing was performed).

crossing. *See* Ex. 8, sheet 2; Trial Tr. 67-68, Dec. 14, 2015. Because the pipe lacks any kind of protective covering, it has become clogged with dirt and debris. *See* Trial Tr. 72-73, Dec. 14, 2015. The inlet to which the pipe connects is also clogged. *See* Trial Tr. 72-73, Dec. 14, 2015; Trial Tr. 212, Dec. 15, 2015.

Although the pipe may convey some of the water that collects on the south side of the right-of-way into the public storm water system along South Avenue, because of the clogged condition of both the pipe and the inlet, the pipe functions at a greatly reduced capacity. *See* Trial Tr. 73-74, Dec. 14, 2015; Trial Tr. 110, Dec. 15, 2015; Trial Tr. 62, Dec. 16, 2015.

The clogged condition of the inlet contributes to the flooding problem on the Mall property in that, during significant rain events, some of the storm water flowing north on South Avenue bypasses the inlet and flows onto the right-of-way. *See* Trial Tr. 212-14, Dec. 15, 2015.

A significant portion of the storm water that comes onto the right-of-way comes from the upgradient residential development to the south of the right-of-way.

The Mall's expert, Dr. Browne, opined that 42 percent of the water that comes onto the south side of the right-of-way comes from the residential neighborhood. Trial Tr. 110, Dec. 15, 2015. According to CSX's expert, Mr. Bross, the residential neighborhood is the source of 85 percent of the storm water on the right-of-way. Trial Tr. 219, Dec. 15, 2015; Trial Tr. 43-44, Dec. 16, 2015. Neither opinion is fully credible.

Dr. Browne's estimate understates the actual amount of water that comes onto the right-of-way from the residential neighborhood because his calculations incorrectly assume that water from a sizeable portion of the residential neighborhood does not reach the right-of-way at all. In Dr. Browne's view, a 3.257-acre portion of the residential neighborhood—labeled area "C" on figure 8 in his expert report—drains into an infiltration device located just south of the right-of-

way at the base of Garfield Avenue, a street that runs perpendicular to the right-of-way toward the western end of the Mall. Ex. 2, figure 8; Trial Tr. 109, Dec. 15, 2015 (“So we feel that C is being infiltrated. It is not going down onto the railroad.”). Dr. Browne conceded, however, that he had never actually observed the infiltration device when it was raining, and when presented with a photograph depicting the device completely inundated with water during a rainstorm, he acknowledged that, at least during a heavy rain, the device would not collect all of the water that flows toward it. Trial Tr. 131-32, Dec. 15, 2015; Ex. 79. Although the photograph of the submerged Garfield Avenue infiltration device was taken after a more than four-inch rain, Mr. Bross, who has observed the Garfield Avenue infiltration device on multiple occasions, confirmed that water from the residential neighborhood bypasses the device and flows onto the right-of-way, even in minor rainfalls.¹² *See* Trial Tr. 13-14, 28, Dec. 16, 2015. The Court therefore finds that, contrary to Dr. Browne’s testimony, storm water from area “C” also flows onto the right-of-way, increasing the proportion of storm water on the right-of-way that originates in the residential neighborhood.

Mr. Bross’s estimate, in contrast, overstates the amount of storm water on the right-of-way that comes from the residential neighborhood to some degree, as his 85 percent calculation appears to be based solely on the acreage of the residential neighborhood that drains onto the right-of-way, without regard to other factors. *See* Trial Tr. 218-20, Dec. 15, 2015.

Although the Court does not accept either expert’s calculation as to how much of the water that ultimately flows from the right-of-way onto the Mall property originates from the

¹² Indeed, Mr. Bross stated he had never seen the Garfield Avenue infiltration device without water in it, even after a ten-day period with no rain. *See* Trial Tr. 13, Dec. 16, 2015. According to Mr. Bross, a functioning infiltration device should completely infiltrate precipitation within 48 to 96 hours. *See id.*

upgradient residential neighborhood, the Court finds that water from the residential neighborhood contributes substantially to the buildup of water on the right-of-way and thus to the flooding problem on the Mall property.

Differences in the conditions on the right-of-way on the east and west sides of South Avenue after a heavy rain reinforce the theory that storm water runoff from the residential neighborhood plays a role in the flooding problem on the Mall property. Photographs of the right-of-way taken on April 30, 2014, during or after a large rain event from which the Mall experienced flooding, *see* Trial Tr. 30-31, Dec. 15, 2015, show significant pooling of water on both sides of the right-of-way to the west of South Avenue (i.e., the area adjacent to the Mall property), but minimal pooling along the right-of-way on the east side of the street, *see* Ex. 12 at 7b, 10b; Trial Tr. 216, Dec. 15, 2015. Although the two sections of right-of-way have “the same ballasts, same rails, same ties, [and] same land forms adjacent to . . . them,” the upgradient property to the south is different on the east and west sides of South Avenue. *See id.* at 216-17. The upgradient property to the south of the right-of-way on the east side of South Avenue includes only a single residential cul-de-sac with a small number of houses, as compared to the denser residential neighborhood to the west. *See* Ex. 52. The remainder of the upgradient land on the east side of the street is used for athletic fields or parks, or is simply open land with grass and trees, as opposed to the largely impervious land on the west side. *See id.* The right-of-way to the east of South Avenue thus receives much less drainage from the adjacent land to the south. *See* Trial Tr. 216-17, Dec. 16, 2015.

The existing flow of water in the area in question is generally from higher to lower ground. Water flows from the upgradient residential development onto the south side of the right-of-way, and from the south side of the right-of-way through the ballast under the track and

onto the lower, north side of the right-of-way. On the north side of the right-of-way, water flows from west to east, following the slight downward grade along a portion of the right-of-way, and then, when the ground begins to slope upward toward the railroad crossing, flows north, down the hill to the lower-lying Mall parking lot.

C. Development of the Area in Question

1. Construction of the Railroad

As discussed in greater detail below, the Mall argues CSX is liable for the flooding on its property because construction of the railroad more than a century ago changed the flow of surface water on the right-of-way, channeling the water into swales from which it discharges in concentrated form onto the Mall property.

Although the Mall has developed detailed information regarding the *current* topography and flow of water in the area in question, the record contains scant evidence regarding the topography and flow in this area at any time before the Mall became aware of the flooding problem in 2010.

The railroad track now owned by CSX was constructed by the Baltimore and Ohio Railroad Company (B&O) in the late 1800s.¹³ *See* Ex. 17.

The parties agree that before the track was constructed, the land where the right-of-way, the Mall, and the upgradient residential neighborhood to the south now sit consisted of undeveloped forest land. *See* Trial Tr. 65-67, Dec. 15, 2015; Def.'s Proposed Findings of Fact

¹³ Although the record does not reflect when, exactly, the track was constructed, B&O acquired the portion of right-of-way adjacent to what is now the Mall property by deed in 1886, *see* Ex. 17, and the track appears on a topographic map of the area from 1898, *see* Ex. 2, figure 1; Trial Tr. 68, Dec. 15, 2015. The deed by which B&O acquired the portion of the right-of-way in question is not in the record.

and Conclusions of Law ¶ 7 (characterizing the area as consisting of “raw, undeveloped land with trees, and heavy vegetation”).

A United States Geological Survey (USGS) topographic map of the “Chester Quadrangle,” a much larger geographic area that includes the area in question, provides some information regarding the topography of the area in question in 1898, sometime after the track was constructed. *See* Ex. 2, figure 1; Trial Tr. 67-68, Dec. 15, 2015. Although the track is depicted on the USGS map, the map does not show the actual elevations along the right-of-way. *See* Trial Tr. 123, 125, Dec. 15, 2015; Ex. 2, figure 1.

Based on the USGS map and information regarding the current topography of the area in question, Dr. Browne developed “conceptual views” of the flow of water in the area in question before and after the track was constructed. To develop his pre-track conceptual view, Dr. Browne used spot elevations from the USGS map to determine an approximate historic grade of the area, opining that in 1898—and, presumably, in the previous decade as well—the land would have had a mild downward slope from south to north, equivalent to a vertical drop of three to four feet over 200 horizontal feet. *See* Trial Tr. 68-69, 124, Dec. 15, 2015; Ex. 2, figure 2. Dr. Browne further opined that because the land was undeveloped, storm water would have flowed without obstruction along the mild slope from south to north in a “laminar” or sheet fashion. *See* Trial Tr. 66, 69, Dec. 15, 2015.

In developing his post-track conceptual view, Dr. Browne first posited that to install the track, B&O would have had to employ a “cut and fill” technique, cutting into the up area of the south-north slope and using the excavated soil to fill in the down side of the slope, to create a level surface for the track. *See id.* at 71-73. Conceding he is neither a railroad nor a track expert, Dr. Browne testified cut and fill would have been used as a matter of “basic civil engineering.”

noting “[e]very construction project in America going back to the 1800s, 1700s used cut and fill.” *Id.* at 71-73, 80, 130.¹⁴ Dr. Browne also opined that, as part of the cut and fill, B&O would have created depressed swales on either side of the track and a raised berm along the northern edge of the right-of-way. *See* Trial Tr. 72, Dec. 15, 2015; Ex. 2, figure 3 (conceptual view depicting the construction of the railroad as creating defined swales on either side of the track and a high point at the northern edge of the right-of-way).

Based on the foregoing assumptions about how the track was constructed, Dr. Browne further opined that the construction of the track would have changed the flow of storm water in the area in question. *See id.* at 72-73. In Dr. Browne’s conceptual view, water on the south side of the right-of-way would have continued to flow from south to north along the natural slope of the land. *See id.*; Ex. 2, figure 3. Upon reaching the right-of-way, however, the water would have flowed in the swales along the track from west to east. *See* Trial Tr. 72-73, Dec. 15, 2015; Ex. 2, figure 3.

While aspects of Dr. Browne’s testimony are plausible, his theory as to how construction of the railroad track changed the flow of storm water rests on numerous assumptions that lack evidentiary support in the record and are beyond the scope of his expertise. Given this lack of evidentiary support, the Court finds Dr. Browne’s theory as a whole to be speculative and therefore declines to credit it.

Dr. Browne’s opinion regarding the slope and flow of water in the area in question before the track was built is based entirely on the 1898 USGS map. While the map enabled Dr. Browne to determine an approximate historic grade of the general area depicted, Dr. Browne himself

¹⁴ Mr. Kelly also testified that B&O would have to have used a cut and fill technique to install the track, but the Court struck his testimony on the subject as outside the scope of his expertise. *See* Trial Tr. 45-48, Dec. 14, 2015.

acknowledged the limitations of the USGS data, conceding he could not say, based on those data, whether the slope “at the actual point where the tracks [we]re done” was constant, and that the stretch of land where the railroad was constructed “could’ve been flat” or “could’ve been more hilly” than depicted in his pre-track conceptual view. Trial Tr. 125, Dec. 15, 2015. Thus, although the Court accepts as credible Dr. Browne’s opinion that, overall, the land in the area in question likely had a mild downward slope from south to north, because, by Dr. Browne’s own admission, the slope on what became the right-of-way could have been different from his approximate historic grade, his testimony falls short of establishing the actual historic flow of water along the land now occupied by the right-of-way.

Dr. Browne’s opinion that construction of the railroad changed the flow of water rests on assumptions about how the track was constructed in the late 1800s, an area in which he admittedly has no expertise. *See* Trial Tr. 80, 130, Dec. 15, 2015. Dr. Browne’s post-track conceptual view assumes, for example, that the railroad changed the grade along the width of the right-of-way using a cut and fill technique. If, in fact, the land sloped downward, it makes sense the railroad may have had to alter the slope to some degree to create a level surface for the track. Because there is no evidence regarding the actual slope along the right-of-way, however, it is impossible to say whether or to what extent such alteration would have been required. Even under Dr. Browne’s own conceptual view, it seems unlikely significant excavation would have been required, given the extremely mild grade in the area—which Dr. Browne agreed would have been the equivalent of a vertical drop of only “a few inches” across the 30 to 40 foot width of the right-of-way.¹⁵ *See* Trial Tr. 124, Dec. 15, 2015. Notably, even today, the surface of the

¹⁵ At trial, Dr. Browne agreed with defense counsel that his approximate historic grade—a vertical drop of three to four feet across 200 horizontal feet—would translate to a drop of only “a few inches” across the 30- to 40-foot width of the right-of-way. Trial Tr. 124, Dec. 15, 2015.

right-of-way is generally slightly lower on the north side than on the south side. *See* Ex. 8, sheets 1-3.

Dr. Browne's post-track conceptual view also assumes that, as part of the cut and fill, the railroad would have created depressed swales on either side of the track and a berm along the northern edge of the right-of-way, yet he offered no reason for this assumption. At trial, Dr. Browne admitted he has no knowledge about the historical construction of the railroad track, has not seen any plans reflecting how the track was actually constructed in the late 1800s, and cannot actually say whether a swale or ditch was created in the late 1800s. *See* Trial Tr. 122, Dec. 15, 2015. There is also no evidence that a swale and berm system is inherently part of the cut and fill technique, the purpose of which is to create a level surface. *See id.* at 73. In particular, it is not clear why, after filling in the down side of the slope, the railroad would have constructed a berm along the northern edge of the right-of-way if the land to the north was undeveloped forest land that sloped gently downward from the right-of-way.

Moreover, Dr. Browne himself has since disavowed his prior opinion that B&O created swales and a berm when the track was installed. At trial, Dr. Browne testified that while, in his view, defined drainage swales *should* have been created alongside the railroad track, he in fact

According to a 1963 plan submitted by the Pennsylvania Department of Highways to the Pennsylvania Public Utility Commission in connection with an application to widen and improve a portion of South Avenue encompassing the railroad crossing, however, the actual width of the right-of-way appears to be 68 feet. *See* Ex. 18A; Ex. 18B; Ex. 53; *see also* Trial Tr. 87, Dec. 16, 2015. By this Court's calculation, the vertical drop would be about 12 to 16 inches across the actual 68-foot width of the right-of-way.

The Mall asserts that when Dr. Browne characterized the south-north slope along the right-of-way as "very flat," he was describing the right-of-way *after* the track had been constructed. *See* Pl.'s Reply Br. ¶ 7. In fact, Dr. Brown agreed the right-of-way was "very flat" both before and after construction of the track. *See* Trial Tr. 124-25, Dec. 15, 2015 (stating the right-of-way was "very flat" in the late 1800s, "before the track was built," and is "very flat" today).

believes swales “never were constructed,” Trial Tr. 126, Dec. 15, 2015, and he characterized the areas he previously referred to as swales as simply “flat property,” *id.* at 105. As for the alleged berm, Dr. Browne testified that, contrary to his earlier opinions, he did not believe an actual berm was ever constructed between the properties. *See id.* at 146 (“A berm was not constructed as a berm.”).

As noted, the current flow of water on the right-of-way is generally from higher to lower ground. To the extent that water flows from west to east along the northern side of the right-of-way, this flow pattern appears to be a function of two topographical features: (1) the high point on the Mall property, which blocks the water from going down the Mall hill, and (2) the slight downward grade from west to east along a portion of the low point of the right-of-way. *See Trial Tr. 109, 134, Dec. 15, 2015 (Browne)* (explaining that because the right-of-way is flat, a small bump or high point in the right-of-way can cause water to flow west or east). There is no evidence, however, that construction of the track produced either of these features.

At trial, Mr. Kelly conceded there is no evidence the railroad did anything to grade the right-of-way toward South Avenue. Trial Tr. 134, Dec. 14, 2015.

There is also no evidence that the railroad created the high point to the north of the right-of-way. Although the high point between the properties is currently almost entirely on the Mall property along the surveyed portion of the right-of-way, the Mall argues it did not create the high point, citing a site drainage plan for the Mall from the late 1960s, which shows a series of fluctuating spot elevations along the southern edge of the Mall property. *See Ex. 19.* According to Mr. Kelly, whose father created the drainage plan, the spot elevations reflect the then-existing elevations along the property line in 1969, before the Mall was constructed, and indicate that the

Mall intended to maintain the existing elevations, not to increase them.¹⁶ *See* Trial Tr. 94-95, 102-05, Dec. 14, 2015. The drainage plan, however, is a design drawing; it does not show the actual elevations once the Mall was built, and it is therefore possible that the Mall created the high point. Moreover, even if a high point existed along the property line in 1969, more than 70 years after the railroad was constructed and after some development had occurred on the land, *see* Ex. 3, fifth photo (June 14, 1958, photograph of the area in question, showing clearing and development on what is now the Mall property), there is no evidence that the railroad created the high point when the track was constructed in the late 1800s. *Cf.* Ex. 37 at 88 (Helene) (explaining that the ditch line along the track is “often times a naturally occurring thing”).

For these reasons, the Court does not find Dr. Browne’s opinion that the construction of the railroad track in the late 1800s changed the flow of water along the right-of-way to be credible.

2. Construction of the Residential Neighborhood

At some point after the railroad was built, the residential neighborhood was constructed on the upgradient land to the south of the right-of-way. *See* Trial Tr. 120, Dec. 15, 2015. The construction of houses, roofs, sidewalks, streets, and driveways in the residential neighborhood created new impervious surfaces in what had formerly been raw land, thereby increasing the amount of storm water flowing onto the right-of-way. *See id.* at 120-21.

¹⁶ The elevations on the site drainage plan are higher than the current elevations along the property line. *Compare* Ex. 19 (showing elevations ranging from 97.9 feet to 101.5 feet), *with*, Ex. 3, sheet 3 (showing elevations ranging from 96 to 98 feet). It is not clear what accounts for this discrepancy.

3. Widening of South Avenue at the Railroad Crossing

In the mid-1960s, a few years before the Mall was built, the Pennsylvania Department of Highways (now part of the Pennsylvania Department of Transportation or PennDOT) made changes to the railroad crossing at South Avenue as part of a project to widen a portion of the street. *See* Ex. 53. The changes included the installation of new drainage facilities in the area of the crossing. Two storm water inlets were installed under the surface of the road, one on either side of South Avenue, just south of the track, connected by a length of 18-inch reinforced concrete pipe. *See* Trial Tr. 86, Dec. 14, 2015; Trial Tr. 184, 200-01, Dec. 15, 2015. In addition, an existing pipe running diagonally under the railroad crossing was extended to run from the inlet on the east side of South Avenue to a ditch on what is now the Mall property. *See* Trial Tr. 86, Dec. 14, 2015; Trial Tr. 185-86, Dec. 15, 2015. After construction of the drainage facilities, water entering the inlet on the west side of South Avenue would be carried through the underground pipes first to the inlet on the east side of the street and, from there, diagonally under the railroad crossing and into the ditch on the Mall property, which at the time was used to convey storm water toward MacDade Boulevard. *See* Trial Tr. 86, Dec. 14, 2015.

CSX argues the clogged pipe that currently extends onto the south side of the right-of-way from the back of the inlet on the west side of South Avenue was also installed by PennDOT as part of the road-widening project. The issue is significant because the Public Utility Commission (PUC) order approving the road-widening project specifies that, upon completion of the project, B&O will “furnish all material and do all work necessary thereafter to maintain its facilities,” and PennDOT will, “at its sole cost and expense, furnish all material and do all work necessary thereafter to maintain the remainder of the improvement.” Ex. 53 at 12, ¶¶ 22, 24.

CSX argues because PennDOT installed the pipe, the obligation to maintain the pipe belongs to PennDOT. The evidence, however, is equivocal.

The record includes both construction drawings for the road-widening project, showing the anticipated changes in the area of the railroad crossing that were approved by the PUC,¹⁷ *see* Ex. 53, and an as-built drawing, showing what was actually constructed in the area, *see* Ex. 18B. Both the construction and the as-built drawings show the inlets on either side of South Avenue and the pipe connecting them. The drawings also show a length of pipe extending from the back of each inlet toward the right-of-way on either side of the road. On the construction drawings, the pipe appears to extend to the right-of-way line on the west side of the street and onto the railroad right-of-way on the east side of the street. *See* Ex. 53; Trial Tr. 184-85, Dec. 15, 2015; Trial Tr. 80-81, Dec. 16, 2015. The as-built drawing also shows pipe extending from the back of each inlet, with the pipe from the western inlet extending to the right-of-way line, but not beyond it. *See* Ex. 18B; Trial Tr. 201, Dec. 15, 2015; Trial Tr. 84, Dec. 16, 2015.¹⁸

Although the construction drawings contemplated the installation of 60 linear feet of 18-inch reinforced concrete pipe in the area of the inlets, the as-built drawing indicates that 49.1 feet of pipe were actually installed. *See* Ex. 18B. The right-of-way for South Avenue is 45 feet wide, and the street within the right-of-way measures 38 feet from curb to curb. *See* Trial Tr. 78, Dec. 16, 2015. Mr. Bross, CSX's expert, opined that approximately 35 or 36 feet of the 49.1 feet of pipe would have been used to connect the two inlets, explaining that although the street is 38

¹⁷ At the time the road-widening project was completed, the alterations to the railroad crossing had to be approved by the PUC. *See* Ex. 53; Trial Tr. 79, Dec. 14, 2015.

¹⁸ There is no evidence as to why the drainage system at the railroad crossing would have included these pipes, though it is reasonable to assume that the pipes were intended to pick up drainage. *See* Trial Tr. 92, Dec. 16, 2015 (Bross) (opining that "you don't run a pipe to nowhere with the expectation that you're not going to take some water").

feet wide, the catch basins for the inlets extend beyond the curb, under the street's surface, such that the actual distance between the inlets is something less than 38 feet. Trial Tr. 203, Dec. 15, 2015; Trial Tr. 78-79, Dec. 16, 2015. Mr. Bross further opined that the remainder of the pipe—approximately 13 to 14 feet—was installed in the back of the western inlet. Trial Tr. 203-04, Dec. 15, 2015; Trial Tr. 79, Dec. 16, 2015. On cross-examination, Mr. Bross acknowledged that the construction drawings show the pipe running from right-of-way line to right-of-way line on either side of South Avenue and then extending beyond the right-of-way line on the east side of the street. Trial Tr. 80-81, Dec. 16, 2105. But he maintained there was no indication the pipe extending from the back of the eastern inlet was ever built, noting the pipe was not visible on the ground's surface and his team had not been able to find the pipe. Trial Tr. 201, 2014, Dec. 15, 2015; *see also* Trial Tr. 45, Dec. 17, 2015 (confirming there is no pipe coming out of the back of the eastern inlet).

Mr. Bross's theory is plausible in some respects. The actual length of the existing pipe that extends from the back of the western inlet onto CSX's property is 12 feet 5 inches, which is roughly consistent with Mr. Bross's estimate that after pipe was laid connecting the inlets, some 13 feet of pipe would have been left. *See* Trial Tr. 43, Dec. 17, 2105 (Kelly) (stating the length of the pipe is 12 feet 5 inches); Trial Tr. 208-09, Dec. 15, 2015 (Bross) (stating the length of the pipe, as measured by his team, is "12 feet and a few inches"). Moreover, according to Mr. Bross, when scaled, the construction drawing depicts the pipe extending from the back of the western inlet as 12 feet long. Trial Tr. 198-99, Dec. 15, 2015.

As Mr. Bross acknowledged, however, both the construction and the as-built drawings show the pipe extending from the back of the western inlet as ending at the right-of-way line for the street. *See* Trial Tr. 80-81, 84, Dec. 16, 2015; *see also* Ex. 18B; Ex. 53. Yet the more recent

Kelly & Close survey of the area in question depicts the existing pipe as extending several feet onto the railroad property. Ex. 18B; Trial Tr. 67-68, 89, Dec. 14, 2015; Trial Tr. 84-85, Dec. 16, 2015 (Bross) (agreeing that if the property line between the right-of-way for the street and the railroad right-of-way is accurately depicted on the Kelly & Close survey, then the pipe extends onto the railroad property). Mr. Bross also conceded that although the PUC Order approving the road-widening project at the railroad crossing provided for condemnation of three small parcels of land, there was no evidence of any condemnation or easement being granted to extend a pipe onto the railroad right-of-way at the southwest corner of the railroad crossing, where the pipe in question currently sits. *See* Trial Tr. 85-89, Dec. 16, 2015; Ex. 53. In addition, while the construction and as-built drawings show installation of 18-inch reinforced concrete pipe in the area of the inlets, the pipe extending from the back of the western inlet is not an 18-inch pipe for its entire length. Rather, for reasons that are not explained in the record, the diameter of the pipe measures only 15 inches at the face of the inlet then broadens to 18 inches at the end on the railroad right-of-way. *See* Trial Tr. 38, Dec. 17, 2015 (Kelly).

Although the evidence suggests that some pipe was installed in the back of the western inlet as part of the road-widening project, it does not establish that the pipe extended onto CSX's property at that time. It is not clear from the record whether the pipe that currently extends from the inlet onto the railroad right-of-way was installed in 1965, is an extension of what was installed in 1965, or is a different pipe altogether. Nor is it clear who installed the pipe. Mr. Kelly believes the pipe is CSX's responsibility because it extends onto CSX's property, *see* Trial Tr. 77, Dec. 14, 2015, but he conceded there is no evidence that CSX ever obtained authorization to install a pipe into the public inlet, *id.* at 130, and that, in fact, he has no evidence as to who installed the pipe, *id.* at 127. Moreover, while the pipe extends onto CSX's property, it is not

depicted on a right-of-way and track map plotted by CSX in 2011, *see* Ex. 17, and it is not even clear that Mr. Lackford, a CSX roadmaster whose territory has included the stretch of the track in question since 1989, was aware of the pipe's existence prior to this litigation, *see* Ex. 42 at 17, 68, 132-33 (stating he was unaware of the inlet on the south side of the track and did not know water on the south side went into the public storm water system). Thus, while CSX has not proved that PennDOT installed the pipe as part of the road-widening project, the Mall has not proved that CSX or its predecessor installed the pipe.

4. Construction of the Mall

In 1969, the Mall was built on the property to the north of the right-of-way. *See* Trial Tr. 95, Dec. 14, 2015.

During construction of the Mall, equipment was used to cut into the slope on the Mall property adjacent to the right-of-way, creating a hill down from the right-of-way and a flat surface for the Mall. *See* Trial Tr. 105-06, 108, Dec. 14, 2015. The slope of the Mall hill is significantly steeper than the historic slope of the land, according to Dr. Browne's conceptual view.

According to Mr. Kelly, the site drainage plan for the Mall indicates that the Mall intended to maintain the pre-existing elevation at the property line with the right-of-way, *see* Trial Tr. 103-05, Dec. 14, 2015, though there is no evidence as to whether construction of the Mall altered the ground along the property line.

When the Mall was constructed, a new storm water system was installed to redirect the water that was previously carried under the railroad crossing and into a ditch on the Mall property into a system of underground pipes. A series of five inlets, connected by pipes, was installed in the flat surface along the southern edge of the Mall property, with the easternmost

inlet connecting to the pipe running diagonally under the railroad crossing. *See* Ex. 19; Trial Tr. 95, 97-98, Dec. 14, 2015. Water flowing into the inlets was directed to a central inlet and from there was conveyed northward, under the Mall property, to MacDade Boulevard. Trial Tr. 95-96, Dec. 14, 2015. Upon reaching MacDade Boulevard, the water was conveyed eastward in the existing PennDOT storm water system in MacDade Boulevard, which emptied into a creek a short distance away. Trial Tr. 95-96, Dec. 14, 2015. In other words, the water that previously reached the storm water system in MacDade Boulevard via the ditch at the eastern edge of the Mall property was redirected underground into the same storm water system. Trial Tr. 97-98, Dec. 14, 2015.

D. Post-Mall Maintenance of the Right-of-Way

The record contains scant evidence of any activity on the right-of-way since the Mall was built in 1969 or since CSX acquired the railroad in 1989.

From time to time, CSX performs “ditching” work along the right-of-way to pick up items blocking the ditch line on either side of the track, such as “refrigerators, washing machines, couches,” and trash people discard there. *See* Ex. 42 at 27-29. At his deposition in 2011, Mr. Lackford testified the last time he had sent someone to ditch along the right-of-way adjacent to the Mall was five or six years earlier, i.e., in 2005 or 2006. *See id.* at 39-40. At that time, items such as “[r]efrigerators, couches, mattresses, large branches, trees, [and] trash” were picked up from the south side of the track. *Id.* at 32-33. There is no evidence that any such items are currently present on the right-of-way or are contributing to the current flooding problem.

In March and April 2009, CSX performed track maintenance work in the area adjacent to the Mall property to replace the railroad ties and resurface the track. *See* Ex. 37 at 46, 62-63; Ex. 42 at 46-48. The surfacing work involved installing new ballast under the ties and then tamping,

or compacting, the ballast to create a smooth, level, raised surface for the track. *See id.* at 52-56; Ex. 37 at 63-65.¹⁹

Based on his review of Mr. Lackford's deposition testimony regarding the 2009 track maintenance work and photographs of the right-of-way taken after the track work was performed, Dr. Browne opined that when new ballast was installed under the track as part of the surfacing work, the existing ballast was spread to the sides of the track. *See Trial Tr.* 87-88, 90-91, 99, Dec. 15, 2015. Dr. Browne further opined that the older ballast would have become "fouled" from years of exposure to oil and grease from the trains and that by spreading the fouled ballast along the right-of-way, CSX increased the impervious area of the right-of-way, made the area flatter, and "probably cause[d] a faster flow" in thunderstorm-type rains. *See id.* at 87, 91, 99. In fact, Dr. Browne opined that the spreading of the ballast along the right-of-way was what "probably tipped the bucket" and caused flash flooding and erosion on the Mall property. *See id.* at 91-92.

Dr. Browne's opinions regarding the effect of the spreading of old ballast along the right-of-way are speculative. Although Dr. Browne testified that CSX would have replaced the fouled ballast because it was "not infiltrating the way they like it," *id.* at 87, Mr. Lackford, whose deposition testimony was the source of Dr. Browne's understanding of the track maintenance work, said nothing about infiltration—or fouled ballast for that matter, and Dr. Browne conceded that, not being a railroad expert, he does not know why CSX replaced it, *see id.* Further, while Dr. Browne's theory is that the fouled ballast prevented water from infiltrating into the right-of-

¹⁹ The tie replacement work was performed on March 29, 2009, and involved some 46 people and 30 pieces of equipment. *See Ex. 42* at 47-48. Surfacing work was also performed on March 29, 2009, involving 20 people. *See id.* at 50. Additional surfacing work was performed on April 27 and 28, 2009, by two or three people. *See id.* at 51-52. The surfacing work involves two pieces of equipment: a tamper and a regulator. *See id.* at 53.

way and increased the velocity of water flowing from west to east on the north side of the right-of-way, there is no indication Dr. Browne examined ballast from the site or made any effort to measure the differences in flow and infiltration rates between the fouled and new ballast. Because the Court finds Dr. Browne's opinions speculative, the Court does not credit them.

E. Efforts to Address the Flooding Problem and Initiation of Litigation

At trial, Mr. Fiore, the Mall's property manager, and Mr. Wolfson, a principal in the partnership that owns the Mall, testified that they first became aware of storm water issues at the Mall after a late-October 2010 rain event, during which a large amount of water came onto the Mall parking lot from the right-of-way through an eroded area in the hill on the Mall property. *See Trial Tr. 6-7, Dec. 15, 2015; id. at 55.*²⁰

Although Mr. Wolfson and Mr. Fiore may have been unaware of any flooding prior to October 2010, there is evidence that flooding may have occurred in earlier years. A photograph from June 2006, several months before Mr. Fiore became the Mall's property manager, shows flooding in the Mall parking lot, a rock-filled channel along the hill from the right-of-way to the parking lot, and broken curb at the base of the parking lot in what appears to be the same area depicted in photographs of the October 2010 rain event. *See Ex. 58; Trial Tr. 215, Dec. 16, 2015* (Bross) (explaining that the eroded area depicted on Exhibit 58 is the same eroded area where flooding occurred in 2010). While the photograph does not appear to show water flowing from the right-of-way into the Mall parking lot, it nevertheless suggests storm water from the right-of-way may have caused flooding on the Mall property in earlier years. *See Trial Tr. 140-41, Dec.*

²⁰ Mr. Wolfson explained that as part of his due diligence before acquiring an interest in the Mall in 2004, he walked the Mall property and spoke with the owners of the property about overall maintenance, but neither saw nor heard of any issues regarding storm water at the property. *Trial Tr. 53-54, Dec. 15, 2015.* He also stated he did not see any channels eroded from the right-of-way to the Mall property at that time. *Id. at 54.*

15, 2015 (Browne) (acknowledging a large storm or a high intensity storm could have caused the flooding depicted in Exhibit 58).

On January 13, 2011, after an unsuccessful attempt to contact CSX about the flooding problem by email, a representative of the Mall contacted CSX about the problem by certified mail and requested that someone from CSX contact him to discuss a solution. Ex. 26; *see also* Ex. 24.

After confirming that water was, in fact, flowing along the right-of-way and then down the eroded area onto the Mall parking lot, CSX staff engineer Jeremy Helene evaluated potential options to remedy the problem. *See* Ex. 37 at 117-19, 140. On January 20, 2011, Mr. Helene advised the Mall that CSX had identified two potential solutions: (1) “[d]itch along this area and block the hill leading to the property, allowing the water to flow into the road and down to the storm drain,” and (2) “[t]ear up the road crossing and install a culvert under the road to send the water towards a bridge that goes over a creek and drain into the creek.” Ex. 28. Mr. Helene noted the first option was “[t]he more likely . . . , due to cost constraints” and stated CSX would notify its local maintenance of way managers that the project would need to be completed in a timely fashion. *Id.*

Mr. Helene later determined, after consulting with Mr. Lackford or Steve Shipley, a CSX maintenance of way manager, that the potential solutions mentioned in his January 20, 2011, email were not feasible. *See* Ex. 37 at 164-65, 177-78. Mr. Lackford recommended that CSX either install riprap in the eroded area on the Mall property or build a concrete spillway along that area. *See* Ex. 42 at 72, 84-85, 88. While these solutions would not stop water from going down the hill, they would slow the flow of the water and keep mud and debris from washing onto the Mall parking lot. *See id.* at 72, 85-86, 128. Although Mr. Helene advised a

representative of the Mall in January 2011 that CSX was considering the option of pouring a concrete trough to divert the water, he did not indicate this potential solution involved installing a trough on the Mall property. *See* Ex. 37 at 163-64, 175.

In April 2011, CSX personnel came onto the Mall property and began work on the concrete spillway, digging out and regrading the eroded area and installing wooden forms to create the spillway. *See* Trial Tr. 10, Dec. 15, 2015.

By letter dated April 19, 2011, the Mall objected that CSX's construction of the spillway was unauthorized, directed that CSX cease all work relating to the storm water issues at the Mall property, and notified CSX that it had forwarded the matter to its legal counsel. Ex. 30.

CSX thereafter cleaned the Mall parking lot and storm drain, removed the wood forms that had been constructed, and, with the Mall's permission, installed riprap along the length of the cleaned out channel. *See* Trial Tr. 17, Dec. 15, 2015. The Mall allowed riprap to be installed as an interim measure to prevent further erosion and damage to the Mall property, but continued to request that CSX implement a permanent solution, as the riprap would not prevent water from coming onto the Mall property. *Id.* at 17-18.²¹

In May 2011, CSX's manager of environmental remediation, William Parry, contacted Arcadis US, Inc., an engineering firm from which CSX seeks technical support from time to time pursuant to a master agreement between the parties, and requested that Arcadis evaluate the

²¹ Although the Mall has since taken additional steps on its property to address the flooding, it has been unable to stop the flooding. For example, the Mall attempted to address the flooding by pulling the riprap in the upper portion of the eroded channel down to the lower portion of the hill; installing field fabric and new soil, topped with straw and ryegrass seed, in the area above the riprap; and installing a silt fence, which blocks water, at the very top of the hill. Trial Tr. 25-26, 47, Dec. 15, 2016. After the Mall took these steps, however, storm water began flowing from the right-of-way onto the Mall property at a point 10 to 30 feet west of the original eroded channel. *Id.* at 27; *see also* Ex. 14. Water has also flowed onto the Mall property from a third spot along the border further west. *See* Trial Tr. 30, Dec. 15, 2015.

Mall's complaint regarding storm water runoff from CSX's right-of-way. *See* Ex. 16 ¶ 1; Ex. 41 at 35-37, 42, 45, 47. In early June 2011, an Arcadis field engineer confirmed that water was coming from CSX's property onto the Mall property. Ex. 16 ¶¶ 2-5. When asked about potential solutions to the problem, senior Arcadis engineer Michael Kleczkowski suggested one potential solution would be to install a drainage pipe on CSX's property to divert the water away from the Mall property and into the public storm water system along South Avenue. *Id.* ¶ 6.²² Mr. Kleczkowski estimated the rough cost for installing such a pipe at \$50,000, *id.* ¶ 7, though this estimate was not a hard number, Ex. 41 at 105.

Mr. Kleczkowski advised Mr. Parry that to be able to further evaluate the potential solutions he had identified, Arcadis would need a good topographic map of the area. *Id.* at 78. Although Arcadis retained a surveyor to prepare a topographic map, *id.*, the survey was not completed until November 2011, *see id.* at 86, by which time the parties were already enmeshed in this litigation.

The parties dispute the feasibility of installing a drainage pipe on the north side of the right-of-way, as proposed by Arcadis.

It is undisputed that implementing this potential solution would require CSX to obtain certain regulatory approvals. Experts for both parties agree that for CSX to direct storm water from the north side of the right-of-way into the public storm water system in South Avenue, it would have to obtain a grading and/or road opening permit from Glenolden Borough and a road opening permit from PennDOT. *See* Trial Tr. 56, 60, 130, Dec. 14, 2015; Trial Tr. 66-67, Dec. 16, 2015. Mr. Kelly testified that a conservation district permit could also be required. *See* Trial

²² Mr. Kleczkowski also suggested another potential solution would be to direct the water to the catch basin on the Mall property. *See* Ex. 41 at 59-61.

Tr. 60, Dec. 14, 2015. Mr. Bross opined that this option might also require approval from the Federal Emergency Management Agency (FEMA) because the affected area is in a mapped 100-year floodplain. *See* Trial Tr. 24, Dec. 16, 2015. Mr. Kelly, however, disputes that FEMA approval would be required for the type of inlet and piping system Arcadis contemplated under the existing floodplain ordinance. *See* Trial Tr. 39-40, Dec. 17, 2015.

In Mr. Kelly's view, obtaining the necessary regulatory approvals does not pose an insuperable obstacle because the water CSX would be seeking to pipe into the existing storm water system is already traveling to the same ultimate point of discharge—i.e., the creek into which the storm water system in MacDade Boulevard discharges—via the existing storm water system. *See* Trial Tr. 58-59, 63-64, Dec. 14, 2014. As Mr. Kelly explained, whether water from the north side of the right-of-way flows onto the Mall parking lot and into inlets on the Mall property which convey the water toward MacDade Boulevard, or is piped into the existing storm water system via another inlet in South Avenue, the same water will ultimately end up in the same creek. *See id.* at 58-59, 62-64. Mr. Kelly thus opined, based on his experience obtaining PennDOT highway occupancy permits for connections to storm water systems, that the permitting required to implement the Arcadis solution was “reasonable” and “doable.” *Id.* at 63.

Mr. Bross, in contrast, characterized the permitting as a “daunting task,” whose likelihood of success was uncertain at best. *See* Trial Tr. 23-24, Dec. 16, 2015. Mr. Bross also opined that for CSX to be able to tie into the existing structures “wherever they may be,” it would likely have to upgrade the size and capacity of the system, which would cost well more than the \$50,000 Arcadis estimate. *See id.* at 24-25.

While the parties vigorously dispute the likelihood that CSX could obtain the necessary regulatory approvals, there is no evidence either side has investigated the issue in any

meaningful way. *See id.* at 66 (concession by Mr. Bross that he has not contacted most of the relevant regulatory bodies about the feasibility of the Arcadis solution).

DISCUSSION AND CONCLUSIONS OF LAW

Pennsylvania common law has long recognized the right of an upper landowner “to have surface waters flowing on or over his land discharged through a natural water course onto the land of another.” *Shamnoski v. PG Energy*, 858 A.2d 589, 605 (Pa. 2004) (quoting *Lucas v. Ford*, 69 A.2d 114, 115 (Pa. 1949)). As the Pennsylvania Supreme Court held more than a century ago, “[b]ecause water is descendible by nature, the owner of a dominant or superior heritage has an easement in the servient or inferior tenement for the discharge of all waters which by nature rise in or flow or fall upon the superior.” *Chamberlin v. Ciaffoni*, 96 A.2d 140, 142 (Pa. 1953) (quoting *Kauffman v. Griesemer*, 26 Pa. 407, 413 (1856)).

The Supreme Court has characterized the upper landowner’s right to discharge water on the lower land of his neighbor as, “in general, a right of flowage only, in the natural ways and natural quantities.” *Pfeiffer v. Brown*, 30 A. 844, 845 (Pa. 1895). Yet, the Supreme Court has also made clear that not all changes made by an upper landowner that affect the flow of surface water onto the lower land will subject the upper landowner to liability. An upper landowner “may make proper and profitable use of his land even though such use may result in some change in quality or quantity of the water flowing to the lower land,” so long as the change is reasonable in relation to the use. *See Lucas*, 69 A.2d at 116. The upper landowner may “make improvements upon his own land, especially in the development of urban property, grade it and build upon it, without liability for any incidental effect upon adjoining property even though there may result some additional flow of surface water thereon through a natural watercourse.” *Rau v. Wilden Acres, Inc.*, 103 A.2d 422, 423 (Pa. 1954).

The upper landowner's right of flowage is subject to two exceptions. First, the upper landowner may not "alter the natural flow of surface water on his property by concentrating it [in] an artificial channel and discharging it upon the lower land of his neighbor even though no more water is thereby collected than would naturally have flowed upon the neighbor's land in a diffused condition." *Id.*; *see also Lucas*, 69 A.2d at 116. Second, the upper landowner may not "unreasonably or unnecessarily" change the quality or quantity of the water discharged on the lower land. *See Lucas*, 69 A.2d at 116. To impose liability on an upper landowner for the effects of surface water runoff on a lower-lying property, the lower landowner must show one of these exceptions applies—that the upper landowner either "diverted the water from its natural channel by artificial means, or . . . unreasonably or unnecessarily increased the quantity (or changed the quality) of water discharged upon his neighbor." *LaForm v. Bethlehem Twp.*, 499 A.2d 1373, 1378, 1383 (Pa. Super. Ct. 1985) (citations omitted); *see also Bretz v. Cent. Bucks Sch. Dist.*, 86 A.3d 306, 316 (Pa. Commw. Ct. 2014); *Florimonte v. Borough of Dalton*, No. 987 C.D. 2012, 2013 WL 3973727, at *6, *8-10 (Pa. Commw. Ct. Apr. 4, 2013); *Fazio v. Fegley Oil Co.*, 714 A.2d 510, 513 (Pa. Commw. Ct. 1998).

Even where the lower landowner shows the upper landowner has "alter[ed] the natural conditions so as to change the course of the water, or concentrate it at a particular point, or by artificial means to increase its volume," the upper landowner may avoid liability for injury caused thereby if he shows that the use that inflicted the damage was "natural, proper, and free from negligence, and the damage unavoidable." *Pfeiffer*, 30 A. at 845 (quoting *Collins v. Chartiers Valley Gas Co.*, 131 Pa. 143, 159 (Pa. 1890)). The Pennsylvania Supreme Court has long recognized that "[e]very man has the right to the natural use and enjoyment of his own property, and if, while lawfully in such use and enjoyment without negligence, an unavoidable

loss occurs to his neighbor, it is *damnum absque injuria* [i.e., loss without injury].” *Id.* (quoting *Pa. Coal Co. v. Sanderson*, 6 A. 453, 457 (Pa. 1886)). To avail himself of this exception to liability, the upper landowner must show that “the damage was necessary and unavoidable” and that it could not be prevented by “reasonable care and expenditure.” *Id.* (quoting *Collins*, 131 Pa. at 159); *see also Clouse v. Crow*, 68 Pa. Super. 248, 256 (Pa. Super. Ct. 1917).

These same principles generally apply where, as here, the upper landowner is a railroad. The Pennsylvania courts have recognized that a railroad, like any other landowner, may be liable for causing “a diversion of the surface water from its natural course” or for “cut[ting] an artificial channel, by which what would otherwise be surface water is concentrated and discharged with greater force at a particular point on the servient land.” *Kuczineski v. Scranton Coal Co.*, 99 Pa. Super. 20, 24 (Pa. Super. Ct. 1930); *see also Toole v. Del. Lackawanna & W. R.R.*, 27 Pa. Super. 577, 580 (Pa. Super. Ct. 1905) (railroad held liable for collecting water from hillside above it through chutes into a ditch alongside the railroad and discharging it through a pipe under the right-of-way onto a public highway, from which it flowed onto plaintiff’s property); *cf. White v. Phila. & Reading Ry. Co.*, 46 Pa. Super. 372, 375 (Pa. Super. Ct. 1910) (stressing, in holding the defendant railroad company was not liable for flooding an adjacent property owner’s basement, the absence of any evidence “indicating that the defendant company had done anything which tended to collect the surface water and discharge it upon plaintiff’s land”).

Similarly, a railroad, like any other landowner, “has the right to the natural, proper and profitable use of [its] own land, and if in the course of such use, without negligence, unavoidable loss is brought upon his neighbor, it is *damnum absque injuria*.” *Kuczineski*, 99 Pa. Super. at 24 (citing *Strauss v. City of Allentown*, 63 A. 1073, 1073 (Pa. 1906)); *White*, 46 Pa. Super. at 378. At least where the railroad company acquires its right of way from the owner of the adjacent

property on which flooding later occurs, the acquisition of the right of way includes the right of the company “to construct its line at the natural grade of the surface, or above or below the same,” which “necessarily entails the right to interfere with the natural flow of the water, resulting from rains or melting snow.”²³ *White*, 46 Pa. Super. at 374-75; *see also Flaherty v. Pittsburgh, Cincinnati, Chicago & St. Louis Ry. Co.*, 63 Pa. Super. 622, 623 (Pa. Super. Ct. 1916). Where the diversion of water onto the adjacent land is “the necessary consequence of the construction and maintenance of the road, a[n] [adjacent] landowner cannot recover in the absence of anything to show that the railroad company has been guilty of some unlawful act or of negligence in the construction and maintenance of its line.” *Flaherty*, 63 Pa. Super. at 623; *White*, 46 Pa. Super. at 375; *cf. Updegrafe*, 19 A. 283 (holding a railroad was not liable for flooding that occurred as a result of the railroad’s construction of a ditch and culvert which allegedly threw water on the plaintiff’s land which would not have otherwise flowed there,

²³ Where a landowner agrees to sell a right-of-way across his premises to a railroad company, or where the railroad company acquires a right-of-way across a landowner’s premises by condemnation, “[a]ny burden cast upon the land by the construction of the railroad, which detracts from its value,” is presumed to be encompassed by the purchase price. *White*, 46 Pa. Super. at 374 (applying this principle in the context of a right of way acquired by condemnation); *see also Updegrafe v. Pa. Schuylkill Valley R.R. Co.*, 19 A. 283 (Pa. 1890) (holding “injury or damage resulting to the [grantor’s] property by reason of the construction of the road” is “supposed to be in the contemplation of the parties when the company pays its money for the right of way and obtains a release therefor”); *N. & W. Branch R.R. Co. v. Swank*, 105 Pa. 555, 561 (Pa. 1884) (“An agreement between a landowner and a railroad company to sell the latter a right of way across the premises of the former, covers all damages of whatever sort suffered by the landowner”). Although the record reflects that CSX’s predecessor obtained the portion of the right of way adjacent to what is now the Mall property by deed in 1886, *see Ex. 17*, the details of the transaction, including whether the grantor also owned the land where the Mall now sits, are not clear from the record.

where the ditches and culvert and the discharge of water were found to be “the necessary result” of the railroad company’s construction of the road).²⁴

The Mall argues CSX is liable for the flooding on the Mall property under two different legal theories: continuing trespass and negligence. Consistent with the common law principles discussed above, to prevail on either theory, the Mall must show CSX (or its predecessor) either “diverted the water from its natural channel by artificial means[,] or . . . unreasonably or unnecessarily increased the quantity or changed the quality of water discharged” on the Mall property. *Bretz*, 86 A.3d at 316 (continuing trespass); *see also LaForm*, 499 A.2d at 1383 (negligence).

A. Continuing Trespass

Pennsylvania follows the Second Restatement of Torts with respect to claims for trespass and continuing trespass. *See Gilbert v. Synagro Central, LLC*, 90 A.3d 37, 52 (Pa. Super. Ct. 2014), *aff’d in part and rev’d in part on other grounds*, 131 A.3d 1 (Pa. 2015); *Florimonte*, 2013 WL 3973727, at *8. Under the Restatement, a person may be liable for trespass “if he intentionally . . . enters land in the possession of [another], or causes a thing or a third person to do so.” Restatement (Second) of Torts § 158(a) (Am. Law Inst. 1965). Where, as here, the alleged trespass consists of causing entry of a thing on the property of another, “it is not

²⁴ Although the decisions in *Flaherty* and *White* refer to a railroad company’s “right to interfere with the natural flow” of surface water on its right of way, *Flaherty*, 63 Pa. Super. at 623; *White*, 46 Pa. Super. at 375, it is not clear that these decisions create a different standard of liability for railroads. Rather, these cases can instead be understood to reflect application of the rule in *Pfeiffer* that an upper landowner is not liable for unavoidable loss to his neighbor resulting from the upper owner’s “natural and proper” use of his land without negligence. As the natural and proper use of a railroad right-of-way is for operation of a railroad, so long as the railroad is constructed and maintained without negligence, the railroad is not liable for loss caused by the railroad’s interference with the flow of surface water as the “necessary consequence of the construction and maintenance of the road.”

necessary that the foreign matter should be thrown directly and immediately upon the other's land.” *Gilbert*, 90 A.3d at 52 (quoting Restatement (Second) of Torts § 158 cmt. i). Rather, liability may be found where the actor does an act “with knowledge that it will to a substantial certainty result in the entry of the foreign matter.” *Id.*; *see also* Restatement (Second) of Torts cmt. i & illus. 3 (observing that one who “so builds an embankment that during ordinary rainfalls the dirt from it is washed upon adjacent lands,” or who “erects a dam across a stream, thereby intentionally causing the water to back up and flood the land of . . . an upper riparian proprietor” is a trespasser).

An actor may be liable for continuing trespass based on the “continued presence on the land of a thing ‘which the actor has tortiously placed there, whether or not the actor has the ability to remove it,’ or ‘which the actor’s predecessor in legal interest therein has tortiously placed there, if the actor, having acquired his legal interest in the thing with knowledge of such tortious conduct or having thereafter learned of it, fails to remove the thing.’” *Florimonte*, 2013 WL 3973727, at *8 (quoting Restatement (Second) of Torts § 161). An actor’s “failure to remove from land in the possession of another a structure, chattel, or other thing which he has tortiously erected or placed on the land constitutes a continuing trespass for the entire time during which the thing is wrongfully on the land.” Restatement (Second) of Torts § 161 cmt. b; *see also id.* § 161 cmt. b, illus. 1 (explaining a party’s erection of a dam on his property, which causes water to back up on an adjacent property, “is a trespass, which continues so long as [the party] maintains his dam in such a way as to flood [the adjacent] land”).

The Mall argues CSX is liable for continuing storm water trespass because its predecessor “changed the original course of storm water [on the right-of-way] from sheet flow running south to north to directed flow running west to east,” and because CSX currently

“channels storm water in the swales on either side of the track and then point discharges the storm water from the north side onto the Mall property.” Pl.’s Proposed Findings ¶¶ 108-09. Although the Mall suggests the change in flow and channeling are independent bases on which to hold CSX liable for continuing storm water trespass, the Court views these allegations as parts of a single theory as to how the Mall is tortiously causing water to go onto the Mall property—namely that in constructing the railroad in the late 1800s, CSX’s predecessor changed the natural flow of surface water on its property by creating swales or ditches alongside the track in which water collects and moves from west to east along a portion of the right-of-way before discharging onto the eastern corner Mall property in concentrated form.

To establish trespass liability based on a landowner’s “collection, concentration, and diversion of surface water . . . via an artificial channel,” a plaintiff must “demonstrate the natural flow of water before and after installation of the [artificial channel].” *Florimonte*, 2013 WL 3973727, at *9; *see also, e.g.*, *Rau*, 103 A.2d at 424 (upholding liability for diversion of surface water through an artificial channel where there was “adequate testimony” to support the trial court’s findings regarding surface water drainage before and after defendant made improvements to its property); *Bretz*, 86 A.3d at 310-11 (describing evidence regarding flow of surface water before and after defendant’s improvements). The plaintiff must also show water was collected and turned in a body upon his lands “through an *artificial channel made by the defendant.*” *Miller v. Laubach*, 47 Pa. 154, 155 (Pa. 1864) (second emphasis added). The Mall has not made the required showing here.

Although the record in this case contains ample evidence regarding the current flow of surface water on the right-of-way and from the right-of-way onto the Mall property, the only evidence regarding the flow of water in this area before and after the track was constructed more

than a century ago is Dr. Browne’s testimony based on his conceptual views. For the reasons explained above, however, the Court finds Dr. Browne’s opinions regarding the pre- and post-track flow to be speculative. In particular, as noted, the only actual topographic evidence anywhere close in time to when the track was constructed is the 1898 USGS “Chester Quadrangle” map, which Dr. Browne admitted does not depict the area in question in sufficient detail to permit him to determine the actual slope along the right-of-way either before or after the railroad was built. Absent credible evidence of the flow of water along CSX’s property before and after the track was constructed, the Mall cannot show that CSX’s predecessor changed the flow.

Moreover, apart from Dr. Browne’s testimony, which this Court does not credit for the reasons set forth above, there is also no evidence that the depressions along the right-of-way are artificial channels or that CSX or its predecessor created them. As Mr. Helene explained, although CSX seeks to maintain the “ditch line” or low point along the right-of-way so as to keep it free of blockages, the ditch line “is often times a naturally occurring thing.” Ex. 37, at 87-88. There is no evidence as to whether the high point on the north side of the right-of-way, which blocks water from the right-of-way from flowing down the Mall hill, existed when the track was constructed in the late-1800s, or that CSX created the high point. Nor is there any evidence that CSX or its predecessor did anything to change the natural grade of the land along the length of the right-of-way. The Mall therefore has not shown that CSX or its predecessor did anything to artificially channel water from the right of way onto the Mall property.

Even if the Court were to credit Dr. Browne’s testimony that CSX’s predecessor changed the flow of water on the right-of-way when constructing the track, the Mall still could not prevail on its continuing trespass claim because it has not proved that the railroad acted with the intent

required for a claim of trespass. Where, as here, a trespass consists of intentionally causing a thing to enter the land of another, the intent requirement is satisfied if the act that causes the entry “is done with knowledge that it will to a substantial certainty result in the entry of the foreign matter.” *Gilbert*, 90 A.3d at 52 (quoting Restatement (Second) of Torts § 158 cmt. i); *see also Liberty Place Retail Assocs., L.P. v. Israelite Sch. of Universal Practical Knowledge*, 102 A.3d 501, 506-07 (Pa. Super. Ct. 2014) (noting the term “intent” is used in the Restatement “to denote that the actor desires to cause consequences of his act, or that he believes that the consequences *are substantially certain to result from it*” (quoting Restatement (Second) of Torts § 8A)). In this case, the Mall alleges CSX caused water to go onto the Mall property by creating swales in which storm water is artificially channeled when constructing the railroad. Given that the railroad was constructed in the late 1800s—before the upgradient residential development was developed, substantially increasing the amount of water flowing onto the right-of-way—and the flooding problem did not arise until more than a century later, there is no basis on which to conclude that construction of the railroad was done with knowledge that it would “to a substantial certainty” result in the diversion of water onto the lower-lying property.²⁵

²⁵ Given the long lapse of time between the construction of the railroad and the advent of the flooding problem, and the substantial development of the surrounding area in the intervening years, it is also not clear that CSX’s predecessor’s alleged creation of artificial channels on the right-of-way is what caused water to flow from the right-of-way onto the Mall property in any event. Insofar as the Mall’s trespass theory is premised on CSX’s failure to maintain the right-of-way, *see* Trial Tr. 66, Dec. 14, 2015 (Kelly) (opining that the cause of the storm water discharging onto the Mall property is the “[l]ack of maintenance of the swale and earth[en] berm that separates the two properties”), it is not clear such failure to act can support trespass liability, *see, e.g., Kruchten v. United States*, 914 F.2d 1106, 1109 (8th Cir. 1990) (holding “a cause of action for trespass does not arise from mere omission to perform a duty; there must be some affirmative act by violence or force, direct or imputed, and the injury must be immediate and not consequential” (quoting 87 C.J.S., *Trespass* § 4, at 958 (1954))); *cf. Kuczineski*, 99 Pa. Super. at 25 (holding a railroad was not liable in trespass for the washing of fill material from its embankment onto a lower-lying property where there was no proof “that any affirmative act upon the part of the defendant company since the construction of its railroad, more than forty-

Citing *Kopka v. Bell Telephone Company of Pennsylvania*, 91 A.2d 232 (Pa. 1952), the Mall argues a trespasser's conduct need not be "intentionally wrongful or recklessly or negligently disregardful of the interest of the possessor" to support liability. Pl.'s Proposed Findings ¶ 113. *Kopka*, however, is inapposite, as the language cited by the Mall concerns the intent required to hold a trespasser liable for bodily harm caused to the possessor of the land as a result of the trespass, not the intent required to establish the trespass in the first instance. *Kopka*, 91 A.2d at 451-52. Moreover, unlike this case, the trespass in *Kopka* did not consist of causing entry of a thing onto the land of another.

four years ago, caused any diversion of the surface water and consequent damage to the plaintiff's property"). Notably, in each of the trespass cases cited by the Mall, the defendant was held liable for taking affirmative acts that channeled water directly onto the plaintiff's property. *See St. Andrew's Evangelical Lutheran Church of Audubon v. Twp. of Lower Providence*, 198 A.2d 860, 861 (Pa. 1964) (township installed a drainage pipe under a road, causing surface waters to flow onto plaintiffs' property in concentrated form and increased quantities); *Rau*, 103 A.2d at 424 (in constructing a residential development on its property, the upper landowner excavated the low point at the mouth of a natural swale located partly on the higher and lower land, narrowed the mouth of the swale, and cut a channel in an earthen bank it had previously erected across the mouth of the swale, "thereby funneling the water into a body and discharging it with greater force and in increased quantities at a particular point on plaintiff's land"); *Lehigh & Wilkes-Barre Coal Mining Co. v. Pittston Coal Mining Co.*, 137 A. 672, 672-73 (Pa. 1927) (upper landowner constructed a ditch on a descending grade toward an adjacent lower-lying property so as to "rid itself of surplus water at plaintiff's expense"); *Pfeiffer*, 30 A. at 845 (upper landowner "by drilling a well and pumping, increased the aggregate quantity of water discharged, concentrated it at an artificial point of flow, and changed its character from fresh to salt"); *Miller*, 47 Pa. at 155 (defendant constructed a drain though marshy ground on his own property and thereby discharged water that previously remained on defendant's own land without generating runoff onto plaintiff's land); *Moeller v. Metzger*, 491 A.2d 1356, 1357 (Pa. Super. Ct. 1985) (reversing grant of a nonsuit in action to enjoin flooding where there was evidence showing "that the flow of water had been concentrated artificially in pipes and in a ditch and then allowed to flow onto plaintiff's land"); *Marlowe v. Lehigh Twp.*, 441 A.2d 497, 499 (Pa. Commw. Ct. 1982) (township concentrated and redirected water onto plaintiffs' property via a newly constructed storm drainage system); *Trimmer v. Berkheimer*, 61 Pa. Super. 269, 276 (Pa. Super. Ct. 1915) (recognizing a property owner "has no right to accumulate and carry . . . water from the roofs of his house onto the lot of an adjoining owner").

Insofar as the Mall argues CSX's intent can be established based on its failure to remedy the storm water problem once it arose in 2010, *see* Pl.'s Proposed Findings ¶ 113, this argument is similarly unavailing, as it is the act which causes entry of a thing onto the land of another that must be intentional to support trespass liability, even in the case of a continuing trespass. *See* Restatement (Second) of Torts § 161 (defining continuing trespass as the continued presence on the land of a thing which the actor or his predecessor in legal interest "has *tortiously* placed there" (emphasis added)); *see also Marlowe v. Lehigh Twp.*, 441 A.2d 497, 500 n.3 (Pa. Commw. Ct. 1982) (finding the intent requirement satisfied where the activities which caused the flow of water on the plaintiffs' land—constructing a storm drainage system to direct water over plaintiffs' property—were intentional).

The Court therefore concludes the Mall has not proved by a preponderance of the evidence that CSX is liable for continuing trespass.

B. Negligence

The Mall also seeks to hold CSX liable for negligently failing to maintain its property by failing to maintain its ditch lines, failing to improve its drainage swales when performing track maintenance work in 2009 to conform to the company's own internal specifications, failing to plant vegetation to control the erosion caused by its channeling of storm water, and failing to maintain the clogged pipe that extends onto the south side of the right-of-way.

To establish liability for negligence, a plaintiff must prove four elements: "(1) a duty recognized by law, requiring the actor to conform to a certain standard of conduct; (2) a failure of the actor to conform to that standard; (3) a causal connection between the conduct and the resulting injury; and (4) actual loss or damages to the interests of another." *Fazio*, 714 A.2d at 512; *accord Florimonte*, 2013 WL 3973727, at *7.

Under Pennsylvania law, a landowner has a duty to control surface water on his property only where the landowner has either “diverted the water from its natural channel by artificial means” or “unreasonably or unnecessarily increased the quantity (or changed the quality) of water discharged upon his neighbor.” *LaForm*, 499 A.2d at 1378. “[W]here the factors of artificial diversion or unreasonable or unnecessary increase are not present,” however, “a landowner is under no duty to tame the surface waters flowing over his land.” *Id.* at 1383; *see also* *Shamnoski*, 858 A.2d at 679-80 (recognizing an upper landowner owes a duty to a lower landowner with respect to water run-off “only where the water is diverted from its natural channel or where it is unreasonably or unnecessarily changed in quantity or quality” (quoting *Lucas*, 69 A.2d at 116)); *Fazio*, 714 A.2d at 513-14 (holding a mini-mart owner could not be liable for negligently causing or allowing water runoff from its property to accumulate in an adjacent alleyway, creating a dangerous icy condition for the walking public, where there was no evidence the defendant “had either diverted the water from its natural channel or increased the quantity of water discharged into the alleyway”).

Although the Mall contends CSX has a duty to control the surface water on its right-of-way because, in constructing the track, its predecessor changed the flow of the water, channeling it into swales alongside the track, as explained above, the Mall has not proved its theory. Hence, the Mall has not established that CSX has a duty to prevent the surface water on its right-of-way from flowing downhill.

Moreover, the Mall has not shown that CSX was negligent in any event.

The Mall faults CSX for failing to maintain the ditch lines on the right-of-way, citing Mr. Lackford’s 2011 testimony that the last time he sent someone to “ditch” along the track was in 2005 or 2006. As Mr. Lackford explained, the purpose of ditching work is to remove items

discarded along the ditch line that might block the flow of water, such as “[r]efrigerators, couches, mattresses, large branches, trees, [and] trash.” Ex. 42 at 27-29, 33. While CSX apparently has not performed ditching work in the area adjacent to the Mall property in some years, there is no evidence of any blockages along the ditch lines in this area that are contributing to the flooding on the Mall property.

With respect to CSX’s failure to create defined drainage swales, the Mall faults CSX for not creating swales that comply with the company’s 2007 “Standard Specifications for the Design and Construction of Private Sidetracks” in connection with the tie replacement and surfacing work performed in 2009. As Dr. Browne acknowledged, however, the Specifications are a set of guidelines for the “design and construction of private sidetracks on properties operated by CSX Transportation.” Ex. 6, at 2; *see* Trial Tr. 129, Dec. 15, 2015. While the Specifications require drainage ditches ten feet wide and two feet deep for new construction of private sidetracks, *see id.* at 6, 19, the track at issue in this case is a main rail, not a sidetrack, and the 2009 tie replacement and surfacing project was track maintenance work, not new construction. *See* Trial Tr. 129-30, Dec. 15, 2015. There is thus no basis on which to conclude that CSX had any duty to comply with the Specifications, which were issued in 2007, more than a century after the track at issue was constructed, as part of the track maintenance work performed in 2009.

The Mall’s remaining negligence allegations are similarly unavailing. While the Mall argues that the 2009 track maintenance work was negligently performed in that CSX spread old ballast to the sides of the track instead of removing it from the site, the Mall’s theory as to how the spreading of the ballast is contributing to the flooding problem is speculative, and the Court does not credit it for the reasons explained above. The Mall also faults CSX for failing “to plant

vegetation to control the erosion caused by CSX’s channeling of storm water.” Pl.’s Proposed Findings ¶ 114. At trial, Dr. Browne asserted the lack of vegetation violates one of CSX’s specifications, *see* Trial Tr. 87-88, Dec. 15, 2015, yet the Mall has not directed the Court to any such specification in the record. Finally, because the Mall has not proved that CSX installed the pipe that extends onto the south side of the right-of-way, there is no evidence CSX has any duty to maintain it.

The Court therefore concludes the Mall has not proved by a preponderance of the evidence that CSX is liable for negligence.

C. Preemption

In addition to arguing it is not liable for the flooding on the Mall’s property under Pennsylvania law, CSX argues the Mall’s claims are preempted under the Federal Railroad Safety Act (FRSA) and the Interstate Commerce Commission Termination Act (ICCTA).

1. FRSA Implied Conflict Preemption

On appeal from an earlier summary judgment ruling in this case, the Third Circuit Court of Appeals held the Mall’s claims are not preempted under FRSA’s express preemption provision, which provides that “[a] State may adopt or continue in force a law, regulation, or order related to railroad safety . . . until the Secretary of Transportation . . . prescribes a regulation or issues an order covering the subject matter of the State requirement.” 49 U.S.C. § 20106(a)(2). At issue in that appeal was whether a drainage regulation prescribed by the Secretary, codified at 49 C.F.R. § 213.33,²⁶ “covered” the subject matter of the Mall’s claims. The Court of Appeals held it did not, in part because the type of harm the drainage regulation

²⁶ The drainage regulation requires that “[e]ach drainage or other water carrying facility under or immediately adjacent to the roadbed shall be maintained and kept free of obstruction, to accommodate expected water flow for the area concerned.” 49 C.F.R. § 213.33.

seeks to avoid (pooling of water on or around railroad tracks) is different from the harm for which the Mall seeks redress (storm water discharge onto an adjacent property). *See MD Mall Assocs. v. CSX Transp., Inc.*, 715 F.3d 479, 491-93 (3d Cir. 2013).

Having concluded FRSA did not expressly preempt the Mall’s claims, the Court of Appeals next considered whether the claims were nevertheless preempted by implication, either because compliance with both state and federal law would be impossible or because state law would pose “an obstacle to the accomplishment and execution of the full purposes and objectives of Congress.” *Id.* at 495 (quoting *Crosby v. Nat’l Foreign Trade Council*, 530 U.S. 363, 373 (2000)). The Court “confidently conclude[d]” this case did not involve a situation in which compliance with state and federal law was impossible, but left for resolution on remand the factual question “whether and to what extent, if any, Pennsylvania law stands as an obstacle to the accomplishment and execution of § 213.33’s railroad safety purpose.” *Id.* at 495-96.

As framed by the Third Circuit, the preemption question on remand is whether “in the maintenance of the drainage facilities that are under and immediately adjacent to the portion of the track in question, CSX is unable, through reasonable means, to prevent the flow of storm water onto MD Mall’s property.” *Id.* at 496. As the party invoking preemption, CSX bears the burden of proof on this issue. *See Green v. Fund Asset Mgmt., L.P.*, 245 F.3d 214, 230 (3d Cir. 2001). CSX seeks to meet its burden by arguing, in essence, that it cannot prevent the flow of storm water onto the Mall property without “unnaturally divert[ing]” the water either toward the track, in violation of federal law, or toward properties owned by third parties, in violation of state law. In particular, CSX argues it cannot divert water from the right-of-way toward the public storm water system in South Avenue—the potential solution identified by Arcadis—because a provision of the State Highway Law of 1945 has been interpreted to prohibit such diversion

within a state highway. *See* Def.’s Proposed Findings ¶ 136 (citing 36 Pa. Stat. § 670-421,²⁷ which makes it “unlawful for any person to discharge sewage or drainage, *except surface drainage*, on, or within the legal limits of, any State highway” (emphasis added)).

Based on the existing record, this Court is not persuaded CSX has met its burden to show it cannot prevent the flow of storm water onto the Mall property through reasonable means. At trial, experts for both parties addressed the feasibility of the Arcadis proposal that CSX pipe water from the north side of the right-of-way into the public storm water system, offering diverging views as to the likelihood that CSX would be able to obtain the necessary regulatory approvals for the project. Although Mr. Bross opined that CSX’s chances of obtaining the approvals ranged from “uncertain to unlikely,” Trial Tr. 23, Dec. 16, 2015, he addressed the issue at a high level of generality in terms of possible hurdles CSX might face and issues that might have to be analyzed, *see id.* at 24, and he admitted he had no recent experience obtaining storm water permits in Pennsylvania, *see* Trial Tr. 175, Dec. 15, 2015. There is no evidence he conducted any meaningful on-the-ground investigation into the feasibility of implementing the Arcadis proposal; in fact, he conceded his opinion was based on his “preliminary review.” *See* Trial Tr. 66, Dec. 15, 2015. As to CSX’s argument based on the State Highway Law, CSX simply asserts, without evidence or legal authority, that PennDOT “has historically interpreted the surface drainage allowed under Section 421 to only be surface/sheet flow,” and that “concentrating water and directing it within a state highway has been considered illegal.” Def.’s Proposed Findings ¶ 136. Notably, while all three experts in this case testified about the Arcadis proposal, none mentioned PennDOT’s interpretation of the Highway Law as a barrier.

²⁷ Although CSX cites § 421 as 36 Pa. Stat. § 670-522, the correct provision appears to be 36 Pa. Stat. § 670-421.

The Court recognizes that the need for regulatory approvals creates some uncertainty as to whether the Arcadis proposal is a “reasonable means” of preventing the flow of storm water onto the Mall property. Absent more concrete evidence that the necessary approvals are not obtainable, or that the cost of implementing the proposal would be unreasonably high, however, CSX has not met its burden to prove the Mall’s claims are impliedly preempted by FRSA.

2. ICCTA Preemption

CSX’s argument that the Mall’s claims are preempted under ICCTA presents a closer question. Enacted in 1995 for the purpose of “establish[ing] an exclusive Federal scheme of economic regulation and deregulation for railroad transportation,” *Emerson v. Kan. City S. Ry. Co.*, 503 F.3d 1126, 1132 (10th Cir. 2007), ICCTA abolished the Interstate Commerce Commission, the agency previously responsible for oversight of the railroad industry, and replaced it with the Surface Transportation Board (STB), *see Island Park, LLC v. CSX Transp.*, 559 F.3d 96, 102 (2d Cir. 2009). The Act grants the STB exclusive jurisdiction over

- (1) transportation by rail carriers, and the remedies provided in this part with respect to rates, classifications, rules (including car service, interchange, and other operating rules), practices, routes, services, and facilities of such carriers; and
- (2) the construction, acquisition, operation, abandonment, or discontinuance of spur, industrial, team, switching, or side tracks, or facilities, even if the tracks are located, or intended to be located entirely in one State.

49 U.S.C. § 10501(b). The Act also includes an express preemption clause, specifying “the remedies provided under this part with respect to regulation of rail transportation are exclusive and preempt the remedies provided under Federal or State law.” *Id.* The term “transportation” is defined broadly to include

- (A) a locomotive, car, vehicle, vessel, warehouse, wharf, pier, dock, yard, property, facility, instrumentality, or equipment of any kind related to the movement of passengers or property, or both, by rail, regardless of ownership or an agreement concerning use; and

(B) services related to that movement, including receipt, delivery, elevation, transfer in transit, refrigeration, icing, ventilation, storage, handling, and interchange of passengers and property.

49 U.S.C. § 10102(9).

The Third Circuit Court of Appeals construed ICCTA's express preemption provision in *New York Susquehanna & Western Railway Corp. v. Jackson*, 500 F.3d 238 (3d Cir. 2007), a case involving a railroad's challenge to state regulations governing the practice of "transloading," or transferring solid waste from trucks to rail cars for carriage to landfills. The Court of Appeals first considered whether the activities at issue in the case constituted "transportation by rail carrier[]," such that they were subject to ICCTA. *Id.* at 246-51. Upon concluding they were, the Court of Appeals next addressed the scope of the Act's preemption clause. The Court recognized that the Act "does not preempt *all* state regulation affecting transportation by rail carrier . . . [;] [r]ather, it preempts all 'state laws that may reasonably be said to have the effect of managing or governing rail transportation, while permitting the continued application of laws having a more remote or incidental effect on rail transportation.'" *Id.* at 252 (quoting *Fla. E. Coast Ry. Co. v. City of W. Palm Beach*, 266 F.3d 1324, 1331 (11th Cir. 2001)). In particular, the preemption clause does not preclude state and local entities from exercising traditional police powers over the development of railroad property, "so long as those regulations do not interfere with or unreasonably burden railroading." *Id.* at 252-53.²⁸ Endorsing an approach taken by the STB and the Second Circuit, the Court of Appeals held a state law affecting rail carriage will not be preempted under ICCTA "if it does not discriminate

²⁸ By way of example, the Court suggested a state would not be precluded from regulating aspects of a railroad construction or abandonment project by "prohibiting the railroad from dumping excavated earth into local waterways" or by "issu[ing] citations or seek[ing] damages if harmful substances were discharged" during the project. *Jackson*, 500 F.3d at 252-53.

against rail carriage and does not unreasonably burden rail carriage.” *Id.* at 254. To satisfy the nondiscrimination requirement, the state law must “address state concerns generally, without targeting the railroad industry.” *Id.* To pass muster under the unreasonable burden prong, the law in question “must not be so draconian that it prevents the railroad from carrying out its business in a sensible fashion,” and “must be settled and definite enough to avoid open-ended delays.” *Id.*

CSX advances two theories as to why the Mall’s claims are preempted under ICCTA’s preemption provision. First, CSX argues the claims are “categorically preempted” because they stem from CSX’s construction and maintenance of its track and therefore seek to regulate matters within STB’s exclusive jurisdiction, namely construction and operation of rail lines. Second, CSX argues the claims are preempted under the test adopted by Third Circuit in *Jackson* because the requested relief, which would likely entail installing a drainage pipe on CSX’s property, would substantially interfere with CSX’s operations and would require permitting and preclearance.

CSX’s argument that the Mall’s claims are categorically preempted is based on the STB’s approach to ICCTA preemption. As CSX notes, the STB has identified “two broad categories of state and local actions” that are preempted “regardless of the context or rationale for the action”: (1) “any form of state or local permitting or preclearance that, by its nature, could be used to deny a railroad the ability to conduct some part of its operations or to proceed with activities the Board has authorized,” and (2) “state and local regulation of matters directly regulated by the Board—such as the construction, operation and abandonment of rail lines; railroad mergers, line acquisitions, and other forms of consolidation; and railroad rates and service.” *CSX Transp., Inc.*, STB Finance Docket No. 34662, 2005 WL 1024490, at *2 (Surface Transp. Bd. May 3,

2005) (citations omitted).²⁹ While the Third Circuit relied on STB precedent in formulating the approach to ICCTA preemption adopted in *Jackson*, it has not adopted the STB’s categorical approach, and this Court therefore declines to apply that approach here.³⁰

²⁹ Under the STB’s approach, where categorical preemption does not apply, “the section 10501(b) preemption analysis requires a factual assessment of whether that action would have the effect of preventing or unreasonably interfering with railroad transportation,” an approach similar, though not identical, to that adopted in *Jackson*. *CSX Transp., Inc.*, 2005 WL 1024490, at *3.

³⁰ Although the Court declines to apply the STB’s categorical approach, applying variations of this approach, the STB and district courts in other circuits have held that state tort claims seeking redress for flooding caused by a railroad’s construction and maintenance of its tracks and roadbed are expressly preempted. *See Waubay Lake Farmers Ass’n v. BNSF Ry. Co.*, No. 12-4179, 2014 WL 4287086, at *6 (D.S.D. Aug. 28, 2014) (negligence, nuisance, and trespass claims seeking to require a railroad to replace an allegedly undersized culvert under its tracks sought to manage or govern how the railroad constructed its roadbed and operated its tracks and were therefore expressly preempted under ICCTA); *Pere Marquette Hotel Partners, L.L.C. v. United States*, No. 09-5921, 2010 WL 925297, at *5 (E.D. La. Mar. 10, 2010) (claims for negligent design and construction of a railroad crossing, tracks, and roadbed, causing flooding, were preempted; the design and construction of the crossing and roadbed were inextricably intertwined with the design and construction of the tracks at the crossing and related directly to the railroad’s rail activity); *Maynard v. CSX Transp., Inc.*, 360 F. Supp. 2d 836, 843 (E.D. Ky. 2004) (holding drainage-related negligence and nuisance claims were preempted where drainage problem was alleged to have been caused by the construction and/or maintenance of the railroad tracks and crossings themselves); *Tubbs*, Docket No. 35792, 2014 WL 5508153, at *4 (Surface Transp. Bd. Oct. 31, 2014) (trespass, nuisance, and negligence claims were preempted where plaintiffs alleged the railroad’s improper design, construction, and maintenance of its tracks caused flooding and property damage because the claims were “based on alleged harms stemming directly from the actions of a rail carrier . . . in designing, constructing, and maintaining an active rail line” and were therefore subject to the STB’s exclusive jurisdiction under § 10501(b)). *But see Emerson*, 503 F.3d at 1129-30 (holding ICCTA did not expressly preempt trespass, nuisance, and negligence claims seeking redress for flooding allegedly caused by a railroad’s improper disposal of old railroad ties and failure to cut vegetation in a drainage ditch on its property because the conduct complained of did not constitute “transportation” within the meaning of the statute). The Mall’s claims in this case are similar to some of the claims other courts have found to be preempted by ICCTA in that the claims concern the allegedly improper design and maintenance of drainage ditches on or adjacent to CSX’s roadbed. *See Pere Marquette Hotel Partners*, 2010 WL 925297, at *4 (holding a roadbed for a railroad track constitutes “property . . . related to the movement of passengers or property . . . by rail” and thus qualifies as “transportation” within the meaning of ICCTA (quoting 49 U.S.C. § 10102(9)(A)).

Under the Third Circuit’s *Jackson* test, a state law that affects rail carriage will be preempted under ICCTA’s preemption provision if the law discriminates against rail carriage or if it unreasonably burdens rail carriage. The Mall’s claims are based on generally applicable state tort law, and CSX does not argue that law discriminates against rail carriage in any way; hence, the preemption inquiry in this case turns on whether granting the Mall’s requested relief—an order directing CSX to develop and implement a fully engineered solution to control and prevent storm water from discharging onto the Mall’s property—would unreasonably burden rail carriage.

CSX argues that granting relief in this case will unreasonably burden its rail operations because the Mall’s preferred remedy (and the only potentially feasible remedy identified to date)—installing a drainage pipe on the north side of the right-of-way to direct water into the public storm water system—will require construction “on, over, or under the tracks themselves,” and will subject CSX to “permitting and preclearance” requirements. Def.’s Proposed Findings ¶¶ 146-47. Whether requiring a railroad to implement a particular tort remedy would unreasonably burden railroad transportation is a factual inquiry on which the railroad, as the proponent of preemption, bears the burden of proof. *See Emerson*, 503 F.3d at 1133-34.

In *A & W Properties, Inc. v. The Kansas City Southern Railway Co.*, 200 S.W.3d 342 (Tex. App. 2006), a case cited by CSX, the court found the defendant railroad had met its burden on this issue, holding that state tort claims seeking to require the railroad to enlarge a culvert under a bridge its tracks crossed was expressly preempted under ICCTA. To establish its preemption defense, the railroad submitted affidavits from two supervisory employees, explaining that enlarging the culvert would require the railroad to temporarily shut down a stretch of its track while construction was being performed, to operate trains at a dramatically

reduced speed when the track was not shut down but work was being performed in the area, and to employ a “rerouting and switch maneuver” that would restrict the length of the trains that could be used during construction, requiring the railroad to operate additional trains to move the same amount of freight at increased cost. *Id.* at 344. The railroad also produced evidence that the work would cost a minimum of \$550,000. *Id.* Based on this evidence, the court found the railroad had established that the economic impact of granting the plaintiff’s requested remedy would interfere with the railroad’s operations and the plaintiffs’ claims were therefore preempted.

The decision in *A & W* stands in contrast to other cases in which courts have found a defendant railroad’s proof lacking on this issue. In *Gordon v. New England Central Railroad, Inc.*, No. 17-154, 2017 WL 6327105, at *8 (D. Vt. Dec. 8 2017), for example, the defendant railroad argued the relief requested by adjacent landowners on their trespass and negligence claims—an injunction requiring the railroad to remove riprap rock the railroad had installed on the plaintiffs’ property when rebuilding its embankment—would unreasonably burden its rail operations because it would cost \$150,000 and take the rail line out of service for three to four days. The court found, however, that the railroad had failed to establish that the requested remedy would have more than an incidental effect on rail transportation where the railroad’s witness had admitted it might be possible to replace the riprap with a retaining wall without taking the line out of service. *Id.* Similarly, in *Emerson*, the court held that an interrogatory response in which the plaintiffs described the actions they wanted the defendant railroad to take to remedy the flooding problem on their property was insufficient proof that providing a remedy for the plaintiff’s tort claims would unreasonably interfere with railroad transportation. *See* 503 F.3d at 1133-34. Although the interrogatory response stated the plaintiffs wanted the railroad to

install “additional culverts or a railroad bridge/trestle . . . to allow the unimpeded flow of surface storm water through and under [the] railroad,” there was no evidence the plaintiffs “had any engineering or other expertise that would qualify them to provide an expert opinion on the precise steps that would need to be taken to prevent further flooding,” nor any other evidence in the record of what would be required of the railroad to remedy the situation. *Id.* at 1134.

Although CSX argues it is “self-evident” that implementing the solution proposed by Arcadis would interfere with its railroad operations because this solution would require construction “on, over, or under the tracks themselves,” Def.’s Proposed Findings ¶ 146, there is no evidence in the record as to what construction the project would actually entail. Even assuming the project would require construction over or under the track,³¹ there is no evidence as to how such construction would be carried out or how disruptive it would be to CSX’s operations. There is also no good evidence of the magnitude of the cost of implementing the Arcadis solution, beyond Mr. Bross’s testimony that the cost would certainly exceed Arcadis’s \$50,000 estimate. *See* Trial Tr. 25, Dec. 16, 2015. While there is ample evidence that implementing the Arcadis solution would require various regulatory approvals, which may or may not be granted, it is not clear, on this record, that the Arcadis solution is the only means of remedying the flooding problem.

While the Court concludes CSX has not met its burden to show that federal law preempts the Mall’s continuing trespass and negligence claims, the Mall has not proved that it is entitled to relief on either of those claims. Accordingly, judgment will be entered in favor of CSX.

³¹ It is not clear from the record how, exactly, a pipe installed on the north side of the right of way would connect to the public storm water system in South Avenue. *See, e.g.*, Trial Tr. 63, Dec. 14, 2015 (describing the Arcadis solution as involving the installation of additional storm water inlets on South Avenue).

BY THE COURT:

/s/ Juan R. Sánchez
Juan R. Sánchez, J.